1. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{52900}{100}}$$

A. Whole

B. Integer

C. Rational

D. Irrational

E. Not a Real number

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2. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-4 - 5i)(7 + 9i)$$

A. $a \in [17, 26]$ and $b \in [-74, -65]$

B. $a \in [-31, -20]$ and $b \in [-48, -42]$

C. $a \in [-77, -70]$ and $b \in [0, 2]$

D. $a \in [-77, -70]$ and $b \in [-5, 0]$

E. $a \in [17, 26]$ and $b \in [71, 78]$

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3. Simplify the expression below and choose the interval the simplification is contained within.

$$13 - 1 \div 4 * 2 - (7 * 20)$$

A. $[109.29, 110.17]$

B. $[-127.31, -126.91]$

C. $[-127.51, -127.25]$

D. $[152.53, 153.05]$

E. None of the above

4. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{2}{8} + \sqrt{-4}i$$

A. Rational

B. Not a Complex Number

C. Pure Imaginary

D. Nonreal Complex

E. Irrational

5. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-10 - 6i)(5 - 8i)$$

A. $a \in [-3, 0]$ and $b \in [108.8, 113]$

B. $a \in [-99, -97]$ and $b \in [-52.5, -49.9]$

C. $a \in [-3, 0]$ and $b \in [-112.2, -107.1]$

D. $a \in [-99, -97]$ and $b \in [48.4, 50.8]$

E. $a \in [-52, -43]$ and $b \in [46.2, 48.4]$

6. Simplify the expression below and choose the interval the simplification is contained within.

$$5 - 18^2 + 14 \div 1 * 19 \div 4$$

A. $[327.18, 332.18]$

B. $[-325.82, -316.82]$

C. $[-255.5, -250.5]$

D. $[395.5, 401.5]$

E. None of the above

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7. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-36 - 88i}{2 - 6i}$$

A. $a \in [-15.5, -14]$ and $b \in [0, 1.5]$

B. $a \in [9.5, 11.5]$ and $b \in [-10.5, -9]$

C. $a \in [-19, -17]$ and $b \in [13.5, 15]$

D. $a \in [9.5, 11.5]$ and $b \in [-393, -391]$

E. $a \in [455, 456.5]$ and $b \in [-10.5, -9]$

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8. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{\sqrt{110}}{14} + 5i^2$$

A. Pure Imaginary

B. Not a Complex Number

C. Nonreal Complex

D. Irrational

E. Rational

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9. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{36 - 55i}{-1 - 8i}$$

A. $a \in [-37, -35]$ and $b \in [6, 8]$

B. $a \in [6, 7]$ and $b \in [342.5, 343.5]$

C. $a \in [-8, -6]$ and $b \in [-4.5, -2]$

D. $a \in [403.5, 404.5]$ and $b \in [4.5, 6]$

E. $a \in [6, 7]$ and $b \in [4.5, 6]$

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10. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{1540}{10}}$$

A. Integer

B. Irrational

C. Whole

D. Rational

E. Not a Real number
